DOCUMENT RESUME

ED 201 695 UD 021 395

AUTHOR Bossert, Steven T.
TITLE Activity Structures and Student Outcomes.
PUB DATE Dec 77
NOTE 64p.; Paper prepared for the National Institute of Education's Conference on School Organization and Effects (San Diego, CA, January, 1978).

EDRS PRICE MF01/PC03 Plus Postage.
DESCRIPTORS Academic Achievement; *Activity Units; Class Organization; Curriculum Design; *Educational Environment; Educational Technology; Elementary Secondary Education; Group Dynamics; Instructional Development; Instructional Systems; *Outcomes of Education; *Scheduling; *School Organization; *Socialization; Student Behavior; Student School Relationship; Teacher Behavior; Teaching Methods; Time Factors (Learning)

ABSTRACT

This paper argues that the structure of activities provides the basis for a model of school organization and its effects on student outcomes. The observation is presented that it is within the context of daily activities that teachers and students make judgments about themselves and others, interact and form social ties, and experience social sanctions. It is stated that the structure of activities shapes the student's exposure to particular curriculum contents, the distribution and use of resources, the pedagogical decisions that teachers make, and the excercise of teacher authority. These, it is asserted, affect what children learn. The bases for this activity structures model in other work on social organization efforts are identified. Elements of the model are specified for different levels of schooling and the relationship between the structure of activities and other aspects of the schooling environment is described. Finally, associations are drawn between specific student outcomes and characteristic activity structures. (Author/APM)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED201695

ACTIVITY STRUCTURES AND STUDENT OUTCOMES

Steven T. Bossert

Department of Sociology
University of Michigan

December, 1977

Prepared for the National Institute of Education's Conference on School Organization and Effects, January, 1978.

UD021395

U S DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
STEVEN T. BOSSERT

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

Relationships between the structural properties of schools and classrooms and student outcomes have been extremely elusive for educational researchers. School environments have been described alternatively as structures of resources, roles, expectations, values, and verbal exchanges; yet, variations in these properties have not been determinately linked to students' achievements, attitudes, normative orientations, or behavior patterns. This need not imply that schools, as organizations, have no effect on their students. Part of the impotence of past research can be attributed to the inappropriate aggregation of data. For example, when resources are considered as characteristics of schools, substantial within-school variations and interaction effects are ignored. Much of the research on school structures has not specified variables that adequately represent the settings in which learning actually occurs.[1] A related problem pertains to the lack of specification of processes by which structural properties attain their effects. Mechanisms that link environment characteristics to specific outcomes are rarely examined. For example, studies of value structures (climates) have not analyzed the conditions in which values supposedly shape attitudes and behavior, where the salience of values and their meanings for concrete action are determined.[2] Consequently, the relationships among structural elements and processes, particularly the attenuating effects that one may have on another, have not been examined. These problems derive from the lack of penetration into the workings of the school. The schooling environment, whether it is the classroom, curriculum track, or entire school, usually is treated as a "black box" or as a highly individualized and fragmented system of dyadic exchanges. There is a need, therefore, for models that specificy the social organization of schooling processes and the linkages between particular structural elements

and specific student outcomes.

In this paper, I shall argue that the structure of activities provides the basis for a model of school organization and its effects on tudent outcomes. This view rests on the simple observation that it is within the context of daily activities that teachers and students make judgments about themselves and others, interact and form social ties, and experience social sanctions. The structure of activities shapes the student's exposure to particular curriculum contents, the distribution and use of resources, the pedagogical decisions that teachers make, the meaning and effect of social influence, and the exercise of teacher authority. These, in turn, affect what children learn. I will try to identify the bases of this activity structures model in other work on social organization effects, specify elements of the model for different levels of schooling, describe the relationship between the structure of activities and other aspects of the schooling environment, and make linkages between specific student outcomes and characteristic activity structures.

Bases of an Activity Structures Perspective

An activity structures perspective is rooted in several traditions. In part, the idea that recurrent activities shape the development of the social self underlies most of the behavioral sciences. To the extent that it orients attention and behavior to the accomplishment of a course of action, an activity molds the way in which individuals experience their environment, others, and themselves. Social experience is embodied in the meanings that phenomena have for the actor. Since an activity entails a temporal ordering of and relationship among phenomena, it structures the meaning of acts and objects by placing them in context with other acts

and objects. The acquisition of shared meanings is fundamental to the process of socialization (particularly as described by the symbolic interactionist and phenomenological traditions[3]). Shared meanings result from interrelationships that develop among individuals as they define and react to things in a reciprocal manner. Recurrent, shared activities provide the context in which these interrelationships develop. The knowledge and norms--sets of shared meanings of objects and actions--that people acquire, then, are determined by the structure of activities as it orders the types of shared experiences and meanings available to individuals. The socialization outcomes of any social organization arise from its structuring of activities.

The impact of common, recurrent social experiences has been most closely studied by Breer and Locke (1965). Their analysis of the effects of task activities on the formation of attitudes, values, and beliefs centers on how the form of the task, not its content, affects behavioral orientations. They argue that in doing a task certain patterns of behavior have a higher instrumental reward value than others. That is, particular forms of action are more likely than others to be successful for the completion of the task. An individual will recognize the instrumental value of certain patterns of behavior and develop coping strategies, or task specific norms, based on these patterns to insure success. Social reinforcement also affects the development of these coping strategies. Common task experiences generate collectively defined task norms which are reinforced through group sanctions.

Breer and Locke further argue that successful coping strategies generalize first to similar task situations and then to a variety of activities. Induction occurs through continued reinforcement of task specific norms. The success of particular patterns of behavior heightens their cognitive desirability, transforming the task specific orientation into a preference for completing similar tasks in a similar way. Continued reinforcement causes this preference to become more abstract and removed from the original task activity until it becomes a basic orientation to action. Thus, general norms of conduct arise from specific patterns of behavior associated with common, recurrent activities.

This process can be illustrated by the following example. An individual is involved in a series of tasks that entail cooperation among group members. Cooperative behavior is reinforced by the successful completion of each task and by group members as they develop task specific work strategies involving cooperation. Task norms develop, embodying the notion that cooperation is instrumental to task success, desirable, and preferable to other actions. If the individual is involved in other group activities, the cooperation norm is likely to be applied to these situations as well. The continued success of cooperative behavior transforms the task specific norm into a general preference for cooperative behavior in all situations.[4]

Breer and Locke's argument clearly relies on social learning and attitude formation theories, especially for the effects of social

reinforcement. Their treatment of the links between task and reward structures, however, goes beyond a typical examination of the temporal ordering of acts and sanctions. A conceptualization of task experience focuses attention not only on the structure of a particular task but also on the organization of all activities experienced by an individual. While behavioral orientations are generated by the properties of specific activities, it is the organization of the task environment, especially the correspondence among task situations, that affects the generalization of norms. The form and structuring of task situations, as well as the concomitant patterning of social relations in them, determine the outcomes of social experience.

The relationships between the structure of activities, patterns of social interaction, normative orientations of group members, and productivity have been illustrated in numerous studies of industrial work groups. Homans (1950), for example, has shown that orientations toward work and productivity norms are formed and reinforced in the small clique groups that develop among coworkers. The organization of tasks influences the nature of these relationships and, hence, affects the development of these norms. Roy (1952) and Borgatta and Bales (1953) describe similar structural effects on involvement and work norms in their studies of small task groups.

Sayles' (1958) analyses of collective action in industrial work settings discloses several important characteristics of activity structures. He

found that "the relation between members prescribed by the flow of work process are a critical variable shaping the internal social systems of a group" (1958, p.42). Variations among factory settings in terms of the size of work groups, the essentialness of a group's function within the organization, and the extent of worker judgment in completing group tasks accounted for differences in group cohesion, interdependence among workers, and propensity toward collective action. The division of labor within the task group was an important factor. When workers completed a common task in a single work area, collective work norms and group activities were common. Where the division of labor was extensive, separating or eliminating workers engaged in common tasks, concerted group activity and collective orientations were less likely to develop.

Similar relationships are described in Woodward's (1958) analysis of the effect of industrial technology on management-worker conflict, in Blau's (1955) studies of supervision and work group relations, and in Miller and Hamblin's (1963) examination of work group productivity and competition. The task structure, by shaping the recurrent conditions in which group members interact and form social ties, affects the formation of group attitudes and values.

Schools and classrooms also can be described in terms of their characteristic structure of activities. While traditional educational research has largely ignored this, schooling outcomes may be attributable to the ways in which activities structure students' and teachers' actions.[5]

Studies of "classroom behavior settings" provide some clues. Using behavioral records of classroom interaction, Gump (1967) found that levels of teacher control and pupil work involvement were related to the type of instructional activity used. During seatwork and whole class recitation, teachers were considerably more control oriented and dominative than during small group projects or reading circle. Students' work involvement as well as their cooperative behavior were higher in small group activities than in seatwork or recitation. Gump's study substantiated two earlier attempts to relate classroom activities to pupil and teacher behavior (Kowatrakul [1959] and Hughes [1959]) but did not analyze why variations in behavior patterns derive from certain patterns of activity, nor did it examine if these produced different work orientations in students.

In their study of a medical school, Becker, Geer and Hughes (1961) demonstrate the ways in which activity structures affect professional orientations. The activity structure at the school was embodied in the curriculum itself. Students worked on identical tasks, often in small groups, and under great time pressures to absorb the large quantities of the factual material presented. The collective experience of common activities fostered collaborative relationships among students and heightened group solidarity. This led to the development of collective definitions of and solutions to common problems, thus buffering competition and generating cooperative work norms. As a group, students defined what was important to learn,

how to meet the demands of work, and the appropriate emotional involvement to be given to certain tasks. The common, collective nature of activities and their pacing set determinate problems for the students and shaped the collective solutions available to them. Professional norms were rooted in these collective solutions and, hence, can be attributable to the effects of the activity structure.

On a theoretical level, Dreeben (1968) and Bidwell (1972) have examined how the normative (moral) outcomes of schooling result from the structure of recurrent activities. Dreeben contends that what children learn derives from the nature of daily task experiences. Characteristics of the task environment, such as the boundaries and size of social groupings, the duration of social relationships, the relative numbers of adults to nonadults, the degree of homogeneity in members' social characteristics, and the extent to which members can observe each others' actions, shape behavior and the opportunities for interaction. Learning social norms occurs as children develop coping strategies to handle specific task situations and as these are generalized to other activities (following the processes described by Breer and Locke (1965); see above). Since institutions have characteristic structures of activities which involve different tasks, constraints on actions, and opportunities for interaction, participation in one is likely to produce different outcomes from participation in another. For these reasons, Dreeben argues that the family and school instill different forms.

Although Dreeben does not consider the structural variations within an institution, Bidwell extends this model to suggest how schools and parts of schools (e.g., classrooms and curriculum tracks) may produce different normative outcomes. He argues that characteristic school activities exemplify moral principles and provide moral meaning to required behavior. This results, in part, from the way in which activities structure opportunities for interpersonal and within group comparisons. Interpersonal influence and other forms of social control are framed by the activity. The nature of interdependencies among group members, specified by the activity form itself, can either heighten or diffuse the impact of social control. Moreover, the meanings associated with expected behavior are not generated from sanctions alone, but from the consequences that appropriate conduct have for the completion of the specific activity. For example, learning to wait for one's turn in a class recitation results from the child's realization that the activity itself entails turn-taking and not simply from the experience of social sanctions. Bidwell contends that learning commitments to forms of social relations associated with specific activities precedes the development of general moral commitments, the latter arising from the generalization of experience in task structures. To the extent that schools and classrooms have distinctive structures of activities, they should engender in children different moral commitments.

Two recent studies of variations in schooling environments indicate the promise of this approach: In elementary school classrooms that employed

distinctive patterns of instructional activities, Bossert (~~forthcoming~~ 1979) found that children developed different norms of peer cooperation and competition. And, White (1978) noted that variations in the professional orientations of students from two elite business schools were linked to differences in the structure of activities embodied in the schools' instructional and "social" curricula. In both studies, the forms of social relations that developed within the context of particular patterns of activities provided the basis for norm learning.

This brief overview suggests some of the basic properties of an activity structures model. Simply put, an activity shapes an individual's experience by ordering the temporal and reciprocal relations among phenomena and actions. These activity experiences constitute an individual's stock of knowledge and form the basis for the formation of attitudes and behavioral orientations. The latter process occurs in two ways. Certain actions have a higher instrumental reward value for the activity and, when enacted, are reinforced by the experience of success. Successful forms of behavior become coping strategies, or activity specific norms, which govern subsequent action in the activity, further shaping how the individual experiences his environment. In addition, the structure of an activity, through its specification of behavioral patterns, affects the nature of social interation within the activity setting. Patterns of social relations shape the impact of interpersonal influence attempts and social control and, hence, affect an individuals' assessment of his

own and others' conduct. Behavorial orientations become subject to group control in activities that foster the development of collective definitions of action. Thus, an activity may entail both autotelic and social reinforcement of behavior in a crescive fashion. The structure of activities determines the extent that an individual encounters similar or different activity situations, and this influences the degree to which activity specific norms become general norms of conduct.

An activity structures model, therefore, includes several basic properties. Elemental are the forms of behavior which constitute the activity itself. While activities may vary in their degree of behavioral specificity--the number of different ways of doing the same activity--and in the complexity of patterns of action, these basic forms of behavior are identifiable.[6] Yet, whatever behavioral options are available, some are more instrumental than others. Therefore, the reward structure embodied in the activity is an important factor. The autotelic effects on behavior of an activity's structure result from the temporal ordering of reinforcements and actions. The sequencing of rewards or punishments in relation to behavior generate the characteristic coping strategies associated with the activity.[7] Moreover, since social reinforcement also may contribute to the development of behavioral patterns, the collective character of the activity must be considered. Among other things, activities differ in the number of people involved, the internal division of labor (e.g., whether everyone is doing the same thing or doing

different, coordinated tasks), and the degree to which group members can choose among behavioral options. Besides setting determinate constraints on behavior directly, through the patterning of social interaction, these characteristics shape the development and impact of collective definitions, coping strategies, and social sanctioning. The nature of social relations in an activity thus has important effects on an individual's orientation to certain patterns of conduct. The consequences of these factors reside in the way an individual experiences his environment, others, and self in participating in the activity. These experiences constitute part of the individual's knowledge of the activity setting and orient future behavior.

While the above discussion does not represent a systematic or comprehensive outline of a theory of activity structure, it does illuminate some of the important elements and processes of this approach to organizational effects. The task in the remainder of the paper is to examine how these notions apply to schools. What are the factors that typify different activity structures within schools and classrooms? Do the knowledge and normative orientations that students acquire in schools result from the way in which characteristic activities structure their experiences of the environment, others, and themselves? Can the effects of participating in different schooling environments be explained by differences in their activity structures?

To answer these questions and begin building a model of the organization of schooling activities, the analysis presented will draw on current research and conceptualizations of schooling processes as well

as on other social science research to indicate fruitful relationships between activity structures, socialization and learning processes, and schooling outcomes. A somewhat arbitrary separation between the processes associated with technical and with moral socialization shall be made.[8] The structures and processes that produce each type of outcome will be considered separately. This is artificial because the activity structure is likely to operate in both realms simultaneously and because the moral and technical outcomes of schooling are inextricably linked; the former contributing to the motivational elements that engender the latter, and the latter providing the content of the former. However, some of the interactions between these will be discussed in a later section. The resulting model will be incomplete, but it should provide a sense of the promise of an activity structure analysis of schooling processes and outcomes.

Activity Structures and Technical Socialization

In thinking about how schooling environments affect the knowledge and skills children do or do not learn, the curriculum is likely to come to mind. It consists of a set of subjects or contents which students are supposed to master through the development of requisite skills and knowledge. Quite simply, what students are exposed to should affect what they learn.[9] Yet, the structure and methods used to transmit the content of the curriculum and to facilitate the development of required skills also are important determinants of learning. Although curriculum

structure usually refers to the logical relations among the concepts, skills, propositions and attitudes that comprise the intended outcomes of schooling,[10] in practice, the curriculum consists of the temporal ordering of activities and of labels that categorize the activities' functions. Students (and probably teachers) experience the curriculum as a set of subject titles and attendant tasks. For example, a pupil may encounter math as that 50 minute period in each day where one sits at one's own desk, listens to the teacher's instructions, and completes a worksheet on sums without talking to classmates about flying gliders during the next recess period.[11] The structural characteristics of a curriculum, then, can be conceived in terms of the temporal ordering of different forms of activities. What effect does variations in these have on the level and content of student learning?

The Temporal Structure of Activities

The amount of time spent in an activity and its relationship to the level of learning have received considerable attention among educational researchers. At the most indiscriminate level, the length of the school year may predict how much children learn: the more time students spend in school, the larger their achievement gains on standardized tests (Wiley, 1975).[12] Similarly, the amount of time an individual is actively engaged in a particular activity (time-on-task) seems to affect learning higher levels of achievement result from longer active involvements in the task (Carroll, 1963; Bloom, 1974). The allocation of time to activities,

then, seems to be an important characteristic of schooling evironments. The level of students' learning may be influenced by the way in which schools, curriculum tracks, classrooms, and subgroupings within a classroom specify the length of time students spend in particular sets of activities.

Current models of time, however, remain very limited. Differences among activities and their interrelation in an activity structure have not been considered. The relationship between time and learning, for example, probably is not linear. Activities may vary in the time required to master the knowledge and skills associated with them. In part, this may be a property of the activity itself. Some tasks involve a longer sequence of component steps or are more complex than others. To the extent that fixed time periods are allocated to certain subjects--as they are in many elementary classrooms and secondary schools--certain efficacious learning activities either may be prohibited or, when used, may not adequately reinforce the knowledge and skills involved because the instrumental reward value of task completion is withheld. The organization of time at the school level may affect the types of activities used in instruction. Moreover, students may vary in the time it takes them to master an activity. Some children may require more time to complete a task or more repetitions to instill the behavioral patterns or content of an activity; others less time. The pacing and sequencing of tasks in an activity structure as well as its flexibility to accomodate different rates of mastery may have important effects on learning. The value of flexible time frames for activities has been examined in theories of mastery learning. In this pedagogical method, instruction is paced

by reference to each student's aptitude for the activity; aptitude being defined as the amount of time needed to master the component parts of the task (Carroll, 1963; Bloom, 1968).[13] The sequencing of instruction is clearly linked to assessment and feedback about the development of requisite knowledge and skills, not to rigid, fixed schedules. Instructional programs based on this principle generally seen to promote higher average levels of achievement among participants.[14] However, whether a program involves mastery ideas or not, an activity structure's effect on learning can be analyzed, in part, by reference to the way time is allocated in and among certain activities.

The amount of time spent in a particular activity or in repetitions of it may not be the only parameter affecting learning. Experience in similar activities--ones that involve some of the same component skills or knowledge, but not necessarily the same goals or consequences--may decrease the learning time required of any one of them. For example, making a scale drawing in art involves the manual dexterity required in handwriting as well as the knowledge of proportions and addition used in math.[15] When examining the effect of time on learning, the similarity among activities becomes an important consideration. At the most general level, this is recognized: reading achievement, for example, stems from reading requirements in social studies and math as well as from periods labeled reading instruction. Unfortunately, few studies have analyzed in a very detailed fashion the overlap among activities in their component skills and knowledge. Though, an analysis

of the effects of similar tasks on learning should not be limited to in-school activities. The amount of time students spend out-of-school on activities that are like the ones encountered in school should influence their achievements. For example, the reading a child does at home, including that which is assigned as homework, contributes to reading achievement.[16] The isomorphism among activities and activity settings mediate the effects of their temporal ordering. However, the degree of similarity also influences the breath of knowledge and skills acquired through a set of activities. Simply put, the more similar the nature of the activities, the fewer the opportunities for developing different skills. (The nature of activity differences and its effect on learning will be examined later.) The diversity of tasks must be considered when examining the temporal structure of activities.

The pacing, sequencing, and flexibility of time periods associated with particular sets of activities as well as the overlap of activities and activity settings comprise basic properties of the activity structure. Although these characteristics, as suggested here, are far from being clear and discrete variables for a time analysis, the idea that learning outcomes are affected by the temporal patterning of activity types muct be incorporated into models of learning time. To the extent that various schooling environments differ in terms of these properties, students' level of learning also should differ.

Activity Forms and Learning

While the time spent on a particular activity may influence how much a

student learns from it, certain activity forms may be better than others for teaching a set of skills. The same time allotted to different methods may produce different levels of achievement. This notion, however, generally has not been supported by research on teaching. Although there is no way of describing differences between instructional methods, most studies have not separated the effects of content, teaching materials, and activity forms when examining teaching methods.[17] When examined separately, usually in experimental designs, common instructional methods, such as recitation, discussion and seatwork, do not seem to produce different levels of achievement (Stephens, 1967; Dunkin and Biddle, 1974; Doyle, 1977). The few studies which do report differences among teaching methods--usually rated along some continuum from traditional to informal or "open" teaching--employ data so removed from the proximal learning environment and the actual behavior of teachers and students that their results are highly questionable (e.g., Wright, 1975; Bennett, 1976). If teaching methods make a difference, it remains unclear how.

Recent research on time-on-task, however, suggests one mechanism by which various instructional methods may produce different achievement gains. Scott and Anderson (1976) have shown that activity types and level of student on-task behavior are associated. Collective activities in which attention is focused on visual material or on the teacher (as in recitation) seem to promote relatively high rates of task-related behavior, whereas small group activities educe the least task involvement. Although

their study does not analyze why certain levels of on-task behavior are associated with certain activity forms, it does replicate part of Gump's (1967) findings on student participation and suggests that the use of certain high involvement activities may contribute to higher achievement gains. None of the other studies of instructional methods have assessed time-on-task when comparing teaching strategies; hence, there is little information about the interrelationship between activity forms, pupil involvement and achievement.[18]

More indirectly, an activity's structure may affect how a teacher responds to students. Part of an effective teacher's skill involves the ability to diagnose moment-to-moment and day-to-day fluctuations in a student's or the class' response to instruction and to provide appropriate treatments. Usually, this ability has been attributed to the cognitive or personality characteristics of the teacher, but without much success in linking individuals' attitudes or traits to their actual behavior.[19] This view ignores the fact that teachers themselves are constrained by the environment in which they act, forming their behavior in the context of ongoing activities. The structure of these activities may shape what information becomes available to the teacher and its meaning as well as how certain responses may fit (or not fit) into the course of action.

The collective nature of instruction is one of the most apparent but little examined factors of classroom life affecting the teacher. As Jackson (1968) has indicated, the press of numbers and of time shapes

a teacher's response to classroom events. Individual students' need often are subordinated to the class. Rather than responding to individual variations in learning, teachers generally seem to use broad indicators of class performance in making their pedagogical decisions. In studying how curriculum units are paced, for example, Dahllöf (1971) has argued that teachers tend to monitor the progress of a small group of pupils, usually those in the lower 10th to 25th percentile of the class aptitude distribution. These students become a "criterion steering group" for the teacher's decisions about when to end one lesson and begin a new one. Since progress is referenced to the achievement of about 15% of the class, students who learn considerably faster than this group must wait or receive other assignments, and those who learn more slowly may never have the opportunity to grasp the material.[20] The collective nature of the classroom task environment forces the teacher to attend to some bits of information and not to others, to the progress of the criterion steering group. While Dahllöf's work demonstrates the existence of the steering group, particularly in traditionally organized classrooms, its has not explained how teachers actually experience the classroom group as a collectivity and how this in turn, shapes what information is monitored. Hence, little is known about why certain pupils become part of the criterion steering group, or about how variations in instructional method and curriculum content may influence either the composition of the steering group or the nature of what is monitored.

In making classroom decisions, a teacher may rely on a variety of cues to assess pupils' learning. The availability of these cues and the meanings they acquire may derive from the teachers' own relationship to classroom activities. As attribution theorists have recently indicated, an individual's assessment of the causes of behavior are associated with that individual's involvement in the activity. For example, actors and observers construct different accounts of behavior; actors tend to attribute events to situational exigencies, while observers attribute the causes of behavior to personality traits of the actors. These differences in perspective result from positional and interactional factors affecting the availability and meaning of information (Jones and Nisbett, 1971). Many of the causal attributions about children's behavior that teachers use to make pedagogical decisions involve such perceptually inaccessible characteristics as motivation and intent. The factors which shape these attributions also shape decisions. The collective nature of an instructional activity, particularly the extent to which the teacher is involved with pupils in the activity, may affect such interpersonal assessments. Will a teacher who is actually engaged in the task make different attributions of intent and motivation than a teacher who is merely a supervisor or observer of the action? Does involvement lead to the use of different cues for assessing pupils' behavior? Differences in attributions may affect the student: whether behavior is thought to result from low motivation or from the ambiguity and complexity of the lesson affects

classroom decisions. To the extent that these decisions have a pedagogical influence on students, achievement will be affected.

In addition to attributions about motivation and intent, many classroom decisions involve assessments of pupils' performances on instructional tasks. Whether a child is achieving or not and how his performance compares to others' constitute important information. There are at least two ways that the activity structure may affect these assessments. First, the degree to which conduct is linked to evaluations of achievement may depend on the activity form. While others have described the relationships between "good behavior" and achievement (e.g., Jackson, 1968, and Dreeben, 1968), this may be more true for some instructional activities than for others. During recitation, for example, displaying proper answering conduct is as important as having the correct answer because the success of the activity, by definition, depends on pupils waiting their turn to answer the teacher's questions. Where coordinated conduct is not so important for the completion of the activity, performance assessments may not involve conduct. Second, performance appraisals based on comparative evaluations among children also may depend on the nature of instructional activities. Comparative assessments are possible only when pupils are engaged in the same task or when various tasks are standardized to a common performance norm. Little is known about how teachers use comparisons when assessing pupils' performances and how the presence or absence of these affect instructional decisions concerning

pupils. Dahllöf's treatment of criterion steering groups (described above) indicates how comparisons are used when students are engaged in common tasks and how these affect pacing decisions. However, when teachers employ a diversity of instructional tasks, where pupils are engaged in individualized lessons, for example, information for comparative assessment may be unavailable. How does the multiplicity of instructional tasks affect performance attributions? For example, do teachers shift from comparative to individually-referenced standards as the activity structure becomes more diversified? How does this affect decisions about pacing and sequencing of instructional activities? What constitutes performance information for the teacher may depend on the collective character of instructional activities.

The collective nature of activities also may affect the distribution of instructional assistance. In groups where members have different aptitudes (which is likely even in small within-classroom ability groupings), engaging in common tasks necessarily implies that some individuals will either finish or demonstrate competence sooner than others. Aside from issues concerning the continued motivation of those who must wait for others to complete the work, the teacher faces a managerial task of what to do with these students. Keeping top performers in the lesson, particularly if it is a recitation or discussion, may facilitate the teacher's work, for these students contribute to the activity and serve as standards for the rest of the group. On the other hand, bored

students may disrupt the activity or, at least, decrease the teacher's ability to maximize the time spent with the poorer performers. After they have demonstrated their knowledge, therefore, these top students may be given other assignments so that the teacher can continue the lesson with a smaller group.

In a study of elementary school classrooms, Bossert (~~forthcoming~~ 1979) found that teachers who used common, collective instructional activities exercised both options. Sometimes top performers served as standards and facilitators for the group activity. Other times, the teachers provided these students with extra assignments--usually to read ahead and begin the next lesson--so that the smaller group of students would receive more of the teacher's attention. In actual practice, however, the top performers received more individualized assistance than other students: between the time spent explaining the extra assignment, helping the students begin it, and answering questions during the work, the teacher allocated more than the average amount of assistance to the top performers. The fact that these students had instruction paced at a higher rate and received more help with their work seemed to bolster their achievement advantage in the class. Moreover, the teacher benefited from this because it guaranteed that these top students would continue to facilitate group activities by their good performance. By contrast, teachers who used collective activities infrequently provided the most assistance to pupils having difficulty with the lessons. Certain top

pupils could not become standards for the class, since many different activities were taking place at the same time. Those students who were doing well were expected to continue at their activity, leaving the teachers free to spend more time with the students who had problems. The collective nature of the activity structure, then, as it shapes the teacher's action also may determine the level of learning. Activity structures which entail a high proportion of common, collectively executed tasks may help increase the achievement diversity in a group of students.

Summary

If teaching has a technology, even a rudimentary one, part of it consists of the choices that are made about the type and scheduling of instructional activities. At the most elemental stage, time-on-task directly affects the level of students' learning. The way in which time is allocated to different pursuits, then, structures the learning experiences that are available to students. The pacing, sequencing, and flexibility of activity periods, particularly in relation to the complexity and diversity of tasks, constitute the opportunities students have for acquiring knowledge and developing skills. Whatever the content of the curriculum or the nature of academic and non-academic tasks, the effect of the temporal ordering of activities on students' achievements must be considered.

The form of an activity, though, is not without its effect. While the structure of an activity may not influence the level of student learning directly, except perhaps through its association with on-task behavior, it may influence how teachers construct their pedagogical decisions. A teacher's perception of a student's or the class' performance may result from the patterns of interaction inherent in the activity itself. The structure of an activity, as it affects the bases for comparative assessment, the relationship between judgments of social conduct and of achievement, and the attributions concerning pupils' motivation, influence the way in which a teacher makes such instructional decisions as the pacing of activities and the provision of special assistance. Initial choices about what activities to use, then, shape other classroom decisions and these, in turn, may affect how much pupils learn.

Activity Structures and Moral Socialization

That schools communicate social values, normative orientations, attitudes, and beliefs is fairly well acknowledged. How schools generate commitments in their students to act in particular ways however is less clear. While teachers and other school staff implore students to act in certain ways, the old dictum about the different moral implications of what is said and of what is done seems to hold. Teachers often preach the virtues of cooperative behavior; yet, they usually reward children on the basis of interpersonal competition. Principals praise trustworthiness, but demand hall passes and conduct locker searches.

Teachers talk about instilling the capacities for self-direction and independence while checking whether each pupil wrote the date in the proper space before allowing the class to begin a writing assignment. This is not to say that all school personnel are hypocrites or that moral communication is ineffective; however, the actions in which people engage as part of their daily activities may exemplify and impart moral principles, sometimes ones that are at odds with their moral instructions. This type of moral socialization--one that is not dependent on didaction but that derives from patterns of social conduct--has been called the hidden curriculum of the school.

While the hidden curriculum has largely gone unexamined by educational researchers, some of its contents and mechanisms have been described. Dreeben's (1968) treatment of norm learning in schools is perhaps the most detailed. He argues that the characteristic structures of school activities create situations in which children are likely to learn certain norms of behavior. For example, the norm of independence is fostered by

> the fact that school children are removed from persons with whom they have already formed strong relationships of dependency, and the sheer size of a classroom assemblage limits each pupil's claim to personal contact with the teacher, and more so at the secondary levels than at the elementary. This numerical property of classrooms reduces pupils' opportunities for establishing new relationships of dependency with adults and for receiving help from them (Dreeben, 1968, p.67).

The structural properties of activity settings instill norms of conduct by creating certain recurrent demands on students. As mentioned earlier,

Dreeben's analysis, like most others, does not describe how variations in the activity structures of schools or parts of schools may affect moral learning. He is interested in describing differences between, not within, institutions; though, many of the relationships between activity structures and norm learning he describes can be applied to subunits within the school.

Bidwell (1972) has extended Dreeben's argument to outline the effects of different school activities. He indicates that activity structures affect moral socialization in two ways. Certain activities directly exemplify norms of conduct and reinforce patterns of behavior associated with them. And, the use of characteristic sets of activities shape the development of patterns of interpersonal interaction and thus frame the effects of social sanctioning on emergent norms. These two distinctions focus attention on how the structural properties of an activity reinforce certain patterns of conduct and on how these patterns of conduct mold social relations and the effects of social influence or control attempts. If schools or settings within the school differ in the activities they employ, will the normative orientations learned by students who experience these different activity structures also differ?

Behavioral Reinforcement in Activities

In addition to whatever students learn about the content of a subject, activities involve certain patterns of conduct from which behavioral

orientations may derive. For example, laboratory experiments in the natural sciences may be fine pedagogical devices for teaching the content of natural laws, but they also teach that careful, controlled manipulation of physical materials produces predictable and replicable results. Likewise, doing mathematical proofs teaches both the properties of numerical and axiomatic systems and the values of systematic, stepwise logic and argumentation.

The way in which the form of an activity reinforces certain attitudes and norms has already been outlined by Breer and Locke (1965). As described earlier, their theory states that certain actions are more instrumental than others for doing a particular task, and the successful completion of the task reinforces the behavior pattern. Through its use in similar, recurrent task situations, this pattern becomes a task specific norm. To the extent that an individual faces other tasks and continues to successfully complete these using the same task norm, that norm will become a general principle of conduct in all situations. Breer and Locke's thesis implies that an analysis of activity structures involves two components, a description of the activity in terms of its instrumental behavior patterns and an examination of the similarity and recurrence of activities within and among task settings.

The characteristic task properties of various school activities, however, have not been examined closely. One common observation, though, has been made concerning the possible effects of extracurricular

activities. Many of these involve collective effort, where there is a common goal, and the task involves some division of labor and interdependence among group members. A prototypic example is team sports. Whatever else team sports engender, they do seem to instill the importance of coordinated action. Because participants have different assignments or component tasks to perform, the entire enterprise depends on responsive execution of these. Other activities also embody this norm. Cooperation and coordinated conduct are essential components of such activities as student government, service and drama clubs. Of course, not all extracurricular activities are collective in nature; hence, differences in the availability of different activity forms and in participation may account for variations in individual and aggregate commitments to norms of coordinated, collective action. (This was true among industrial work groups that Sayles (1958) studies; see earlier section.)

Another example involves variations among schools, classrooms or curriculum tracks in the use of laboratory training in science. If laboratory experience instills commitment to empirical research or, at least, the value of careful systematic experimentation, science curricula that do not involve laboratory work may not provide the experiences necessary for students to develop these norms. Likewise, differences in the use of systematic proofs and rote memorization in mathematics instruction may account for variations in the value students place on these activities, independent of their effect on math achievement.

These examples imply that students who experience different activity forms, either during instruction or in extracurricular activities, may acquire different norms for behavior. The provision of certain activities, then, should influence the outcomes of moral socialization in schools.

Whatever the form of available activities and their attendant norms, certain features of the structure of activities should affect the extent to which activity specific norms become more generalized principles of conduct. As Breer and Locke have indicated, norm learning from activity experiences occurs because certain behavior patterns or orientations receive continued reinforcement in similar activities. Therefore, just as the pacing, sequencing, diversity and overlap of activities may affect level of learning (as described before), these structural features also may influence how activity specific norms are generalized.

The pacing of activities, for example, influences whether or not students will complete an activity and be reinforced by task success. The time allocated to an activity must allow for the instrumental reward value of prescribed actions to be realized in order for these actions to become activity specific norms. (This need not imply, however, that activities must be completed during one period.) A particular pattern of behavior, even it it is reinforced in an activity, will not become a generalized norm unless it is repeatedly used by students. Continued instrumental reinforcement of behavior is most likely to occur when the same or similar activities are successfully completed. (This, of course,

is an underlying principle in repititions of instruction.) Similarity may involve the extent of overlap between school and non-school activities. Behavioral patterns and orientations that are instrumental in multiple situations are the ones that are most likely to become generalized principles of conduct.

A fourth feature of activity structures involves the sequencing of activities. In examining the forms of activities encountered by students over several school years, the norms developed in early activities may influence behavioral patterns used in subsequent ones. For example, if mathematics training begins with memorization of rules and formulas, students may apply this procedure ad hoc in later math work, perhaps even when a more conceptual approach is required. When activities do not have one set of prescribed behavior, early patterns may be readily transferred to new activities, thus continuing to reinforce previously learned norms.

The autotelic effects of activities on norm learning, then, occur through the way in which certain forms fo activities instrumentally

reinforce particular patterns of behavior and certain structures of activities provide recurrent, similar activity forms. The generation of commitment to norms takes place as activity specific orientations are generalized to other situations. Since many settings involve different forms of activities as well as differences in the way these activities are paced, sequenced, and interrelated, normative principles and the strength of commitment to them should vary among children who experience different settings. The most efficacious activity structure would be one that provided a set of activities which continually reinforced the same set of behavior patterns. Whereas the least efficacious one would involve so diverse a set of activity experiences that conduct could not be routinized. The normative orientations that students acquire from activity experiences in schools, classrooms, curriculum tracks, and other subsettings within the school may, in part, result from these structural components of activities; variations among students in their normative orientations derives from the experiences gained in different activity structures.

A caveat must be mentioned: Should an analysis indicate that variations in students' normative orientations are not associated with differences in the activity structures of schools or their parts, the effect of instrumental reinforcement of norms need not be discarded. Several factors characterizing current schooling practices may attenuate the autotelic effects of activity structures. First, most school activities

may not have clear cut patterns of instrumental conduct. An analysis of typical school tasks could reveal that there are multiple ways of sucessfully completing most activities; hence, no subset of behavior receives recurrent task reinforcement. Second, school activity structures may involve a set of tasks that are extremely dissimilar or are ineffeciently paced and sequenced. Behavioral orientations that are appropriate for one activity are not reinforced in others so that students learn only task specific strategies and not more generalized principles of conduct. Third, social rules governing behavior often may violate the instrumental actions entailed by the activity itself and thus reinforce orientations that do not derive directly from activity experience. For example, to work alone on a worksheet violates that clear instrumental reward values of cooperative behavior and of dividing labor. This may instill conflicting behavior strategies in students and decrease the reinforcement value of a particular activity structure.

These problems, however, do not deny the importance of an activity structures analysis. The form and structuring of activities may have important effects on students' norm learning. And, activity settings that differ on crucial properties may account for differences in normative commitments. This has not been examined by research on schooling.

Activity Structures and Interpersonal Relations

As a mechanism for instilling attitudes and normative orientations,

social reinforcement is an essential component in an activity structures perspective. The effects of interpersonal influence, identification, modeling and reference group comparisons on moral learning have been well documented. The method and content of moral communication, particularly how attitudes and expectations are transmitted through social interaction, has been a central concern. (See Bidwell (1972) for an excellent review of how this applies to schooling.) An activity structures model, however, focuses attention on factors which shape social interaction within a setting and on the social context in which interpersonal assessments and influence occur. The structure of activities frames social reinforcement. It influences who interacts with whom, the nature of that interaction, and the meaning of behavior and communications. Activity structures affect moral socialization by defining the opportunities for and nature of interpersonal influence and reference group comparisons.

One of the most evident features of many school activities is their collective public nature. Whatever the content of the activity, students usually complete the same task at the same time and in the same place. Dreeben (1968) argues that the collective character of instruction provides the basis for learning norms of universalism and distributive justice. Common tasks heighten the sense of group membership and instill the idea that a student is one of a category of people who engage in a particular set of activities. This occurs not only from the use of common activities in the classroom but also from the differences in

activities among grade levels and curriculum tracks in the school. For example, students learn that tenth graders take U.S. History and Algebra whereas eleventh graders study world history and geometry, and that only college track students have laboratory work in Science. Dreeben notes that within the context of the school students must learn that "certain qualities that determine their uniqueness as persons become subordinated to those specific characteristics in which they are alike" (1968, p. 83). Collective activities and the sense of group membership that may arise from participation in them foster interpersonal and self assessments that are based on categorical terms, thus reinforcing universalistic norms for interaction.[21]

At the same time, collective tasks provide a basis for differentiation within a group. When individuals engage in the same activity, interpersonal and self assessments can be readily referenced to common standards of performance. Comparisons and social sanctions that may derive from these judgments are generally seen as equitable because they apply equally to each member of the group. In school, there are numerous common, collective activities, and students are distinguished by their performance on these. Formal testing is perhaps the most fundamental for it usually links performance to a reinforcer that has clear comparative meaning. Grades and test scores become a common criterion by which students are judged. What students learn from this is that "each receives according to his own performance."

However, activity structures vary in the extent to which task performance affects interpersonal assessments and differentiation within a group. When students are not engaged in common tasks, any comparative evaluations must be made on criteria other than relative achievement. In a study of elementary school classrooms, Bossert (~~forthcoming~~ 1979) found that the way students evaluated one another and chose friends were linked to the activity structures of their classrooms. Where group recitation and other common assignments (e.g., worksheets and booklets) were the most frequent instructional activities, relative academic performance played an important role in the children's assessments of themselves and their peers. Performance was a stated criterion for friendship among most of the students, and friendship cliques generally contained only children achieving at similar levels. By contrast, in classrooms which had few common group activities and relied largely on individualized and student-initiated small group projects (multi-task organized classes), interpersonal assessments rarely were based on task performance and the children did not select friends according to their relative academic standing in the class. Bossert argues that common, collective activities, particularly when clearly linked to a formal reward system that is based on comparative judgments of performance, foster the development of a competitive status system within a classroom, where status and interpersonal bonding depend on individual performance. This decreases overall group cohesion and reinforces

social relations that support pupils' productivity and the chances for obtaining rewards. When a classroom's instructional organization involves a variety of different activities occurring simultaneously, there is little basis for comparative assessments of task performance. Pupils are free to establish social relationships without regard for their instrumental reward value in obtaining performance recognition.

Although these children's orientation to cooperative and competitive norms were not measured directly, Bossert's research indicates that a classroom's activity structure may have important effects on how children learn these norms. Students in the multi-task organized classrooms were very cooperative. They worked well in any subgroup of the class, even if normal friendship associations were broken by group assignments. The other children, by contrast, did not want to split up their performance homogeneous cliques and often persuaded their teacher not to do so. There was a high within-group solidarity but considerable between-group competition expressed in play activities as well as in academic tasks. The patterns of social relations among children exemplified different norms of competition and cooperation. While it seems unlikely that generalized norms for interaction would result from one year of participation in a particular activity structure, differences in these children's assessments of peers and their social ties were linked to differences in their classroom activity experiences. Variations in the activity structures that children experience over several years may

account for differences in their normative orientations.

The effects on norm learning of variations in student's social ties that result from different activity structures is most clearly illustrated in White's (1978) study of two graduate business schools. One school has a highly individualized program of study with few common, core courses, and students are encouraged to enroll in classes in other parts of the university. The second school has a rigidly organized first year program that allows few options. Students at this school also are assigned to small groups which receive collective assignments in many of their first year courses as well as a budget for social activities. At the first school, social relationships were diverse and fragmented despite organized social activities within the school. By contrast, group solidarity was exceedingly high at the other school and remained so even during the second year of the program when first year groupings had no formal status, group assignments were less prevalent, and students selected specialty courses. Many of these groups, in fact, chose the specialty in which they would enroll collectively.

White argues that different work norms developed among students at these two schools. At the first school, students expressed an orientation to individualized study and, in fact, collaborated infrequently on course assignments. Students at the other school developed strong cooperative social ties and shared work even when their instructors proscribed collaboration. Moreover, as all of these students began making career decisions

and selecting types of work situations in which to seek employment, their occupational preferences mirrored their orientations to school work. Students at the first school consistently stated a preference for a career that would allow them to define their own objectives and work independently. Students from the other school favored jobs where they could work as a team and do collective problem solving. These work norms were not an explicit part of the curriculum but resulted from the social organization of instruction. White's research demonstrates that the experiences and social relationships that derive from an activity structure influence students' normative orientations.

One difference between White's and Bossert's studies should be noted here. While the latter found that classroom-to-classroom variations in activity structures influenced student's behavioral orientations, the former indicates that these are relatively unimportant and that the activity structure of the school shaped students' work norms. The unit of analysis, then, may vary in activity structure models of different settings. When schooling experiences are limited to one classroom group, as they are in most elementary and pre-school settings, the structure of activities in that classroom clearly shapes oppportunities for interaction and the social relationships that develop among students and between students and teacher. However, when the organization of instruction and other school activities involves separate classes that may vary in their composition, as in most secondary schools and colleges, students'

experiences in a curriculum track or of a university department, for example, may be the more important determinant of social relations. An activity structures model focuses attention on groupings in which members have a common, recurrent set of experiences. Groups that either are too inclusive--such as the entire school at the elementary and secondary levels--or constitute only a small and fragmented part of students; activity experiences--such as one course in high schools or colleges--do not contain the stable patterns of social relationships in which social control and interpersonal influence are normally exercised and obtain their effects.[22] When analyses of schooling effects do not capture the appropriate interaction groups, they may aggregate disparate experiences or miss important interactions that shape students' orientations. Variations among interaction groups in the typesof activities members experience should induce different patterns of interaction within the group and, thus, shape the effects of social reinforcement on norm learning.

The effect of activity structures on other relational norms can be suggested here. Independence, autonomy, and self-direction may have their antecedents in patterns of interaction that arise from certain structures of activities. Dreeben (1968), for example, noted that self-sufficiency is reinforced in activities that involve individual rather than group work. Learning to work alone necessitates breaking patterns of dependency which can develop from cooperative tasks (like most of those experienced in the family). Any division of labor within an activity precludes reward structures that are clearly based on

Individual performance, thus limiting social reinforcement for independent work. (This was also indicated in White's study.) Autonomous and self-directed behavior, however, may require more than simply learning to work by oneself. Bossert (~~forthcoming~~ 1979) suggests that self-directed work behavior among elementary school pupils is associated with activity experiences in which teacher control and direction is minimal. Students in classrooms that relied heavily on group recitation and seatwork--tasks which entail high levels of teacher control--showed little self-directed behavior when confronted with new, fairly undefined activity settings. While learning to work alone, these students were dependent on their teachers for specification of proper work procedures. By contrast, children from classes that employed numerous individual and small group projects in which they were encouraged to choose and organize their own tasks learned to begin new activities on their own without waiting for detailed instructions (sometimes to the dismay of their teachers). Participation in different activity structures, therefore, may reinforce distinctive patterns of interpersonal relations and, hence, engender different normative orientations.

Summary

The contribution of schooling to moral commitments has been suggested by many writers since Durkheim's early formulation of moral education. However, the processes that affect norm learning in schools have not been studies directly.[23] An activity structures perspective suggests some of

the mechanisms by which schools produce moral outcomes. Norms may be directly exemplied by patterns of conduct inherent in an activity (e.g., cooperation norms from tasks entailing coordinated action). Learning these norms depends on having recurrent, successful experiences in the activity itself, and not necessarily on social reinforcement of behavior patterns. However, when particular patterns of conduct are socially sanctioned, it must be recognized that interpersonal influence and social control are exercised in the context of an activity structure. Their effects are linked to the structure of social relations which derives from the activity pattern. The use of reference group or interpersonal comparisons, for example, depends on within-group identifications and common performance standards which can derive from common recurrent activities. Schools provide activity structures that differ form other settings experienced by students, thus increasing their repetoire of behavioral norms. Schools also may vary among themselves or may contain subsettings which vary in the characteristic activity structures they employ. These variations have not been extensively examined in research on schooling but should provide clues for discriminating among schooling settings in their impact on norm learning.

Interrelations Between Moral and Technical Socialization

While it is analytically useful to separate moral and technical socialization, activity structure effects in one may influence the other.

A most apparent area of interrelation is in the effect of student motivation or commitment to school on other schooling outcomes: The greater the commitment to school activities, the greater the impact of these activities on technical and other moral outcomes. Beside the motivations, aspirations, and commitments generated by non-school situations, the structure of school activities itself may contribute to or detract from the development of positive orientations for task engagement.[24]

For example, the pacing and sequencing of activities, aside from their direct reinforcement effects (see earlier section on the temporal structure of activities), may influence the degree of student engagement in these activities. When too slowly paced, tasks may instill boredom and students will lose interest. Contrarily, activities that are paced too quickly, not allowing students to obtain instrumental reinforcements for task success, also may decrease students' satisfaction and interest in the activity and their willingness to become actively involved. Moreover, a certain degree of diversity among activities may be necessary to insure task engagement. Even though the subject or content of activities may change, repititions of the same form of activity may decrease students' work involvement. How such features of the activity structure affect motivation for task engagement have not been examined but may provide important explanations for schooling outcomes.

More indirectly, commitment to school and, hence, the power of activity experiences to shape both technical and moral outcomes may

derive from the effect an activity structure has on the teacher-pupil relationship. For example, Bidwell (1970) has argued that a teacher must establish a relationship of trust between himself and his pupils in order to overcome the potentially hostile situation of control that may result from students' involuntary recruitment into schools. "Student trust in teachers is of the greatest importance in teaching as it generates those affective bonds between teachers and students . . . that generate in students motivation to learn (whatever the content to be learned) independently of teacher demands for compliance" (Bidwell (1970, p. 50). A teacher seemingly cannot rely on the authority of office to control pupils; personal bonds of trust and rapport are necessary for gaining pupil compliance and promoting learning within a classroom.

In his theoretical treatment of teacher authority and student unrest, Spady (1974) further elaborates the importance of trust for promoting achievement and commitment to school. He argues that a teacher cannot simply rely on the exercise of power; this results in a confrontation between teacher demands and pupil desires and can cause pupil alienation. To provide a conducive learning environment, the teacher must gain the willing compliance of his pupils. Spady notes that a teacher accomplishes this by showing that he is concerned about his pupil's welfare and by demonstrating his ability to provide stimulating learning tasks. Teachers who rely primarily on the exercise of formal, institutional authority will not be able to develop affective bonds that promote

willing compliance, motivation to learn, and achievement among their pupils (though, no empirical examination of this hypothesis has been made).

In their arguments, Bidwell and Spady seem to assume that a teacher's ability to establish trust and rapport with students is primarily a consequence of the teacher's individual characteristics. However, the exercise of authority and the expression of empathy may not be solely a consequence of teacher personality. Bossert (1977; ~~forthcoming~~ 1979) has argued that the exercise of teacher authority and the resulting forms of teacher-pupil rapport are linked to a classroom's activity structure. Teachers who relied on recitation were less able to establish close social ties with their students than were teachers who primarily utilized small group and individualized projects. Recitation places teachers at the center of control: its forces them to rely on equitable, impersonal sanctions (usually short verbal desists) and on the authority of office rather than on more personalized influence mechanisms. By contrast, small group and individualized instruction increases opportunities for teachers to covertly "bend" classroom rules to handle individual problems and facilitates teacher involvement in, rather than simply teacher direction of, the activity. This created a consideraly stronger sense of rapport between teacher and students than that which occured in the recitation organized classes.[25] The children in the study explicitly expressed the importance of personalized treatment and teacher participation for close social bonds. It was not that the teachers who used recitation were less

concerned or less empathic, but rather that recitation precludes the individualization and involvement allowed by other activities.

Unfortunately, Bossert did not test the relationship between activity structure, teacher rapport and control, and achievement. However, if Bidwell and Spady are correct in their hypotheses than the degree of trust and rapport in the teacher-pupil relationship affects students' achievements, the activity structure may prove an important mediating factor. While activity structures may have direct effects on student learning, their indirect effects on commitment to school must also be examined. Motivation and commitments can derive from the social relations that develop within schools, and thus the activity structure as it affects opportunities and forms of social interaction becomes an important factor.

The effect of technical socialization on moral socialization is less clear. As Bidwell (1972) has indicated, much of the moral content of schooling is transmitted directly as part of the technical program of study. Moral autonomy, for example, may depend on a person learning about the historical range of values, attitudes and motives that have governed societies. Developing the view that moral orders are not fixed and that moral contradictions and dilemmas are inevitable in complex societies may stem from the content learned in school activities (e.g., history, sociology, civics, etc.) and necessarily precede the development of moral commitments to autonomy. How activity structures transmit the moral contents and reinforce their applicant social relations is an important but unexamined area of study.

An Activity Structures Perspective

The search for causal relationships between school structures and student outcomes has taken educational researchers far away from exploring the nature of and interrelations among constitutive elements of the schooling experience. School research generally has suffered from a "black box" approach and from highly individualistic models of conduct. Many studies measure only "inputs" and "outputs" without attempting to discern or assess processes that shape teacher and student behavior. Even when behavior is examined, personal characteristics of the actors, such as attitudes and personality traits, are considered the primary determinants of action. These approaches have contributed little to an understanding of schooling precisely because both ignore the fact that education is a social activity--its outcome influenced by its form of social organization. An activity structures perspective discloses some of the contents of the educational "black box" and moves beyond simplistic models of behavior. It rests on the notion that individuals experience their world in the context of their pursuits: Activities mold individual experience by structuring the temporal and reciprocal relations among phenomena and actions. The nature and organization of recurrent activity experiences constitute the learning environment.

This perspective focuses attention on several important factors. At a most basic level, the activity structure specifies what tasks are encountered

and the length of time and number of repititions involved. What students learn is directly related to the opportunities for engagement in specific activities with particular technical and moral contents. But, whatever the content, level of learning is influenced by the temporal ordering of activities. The pacing, sequencing and similarity among activities determines whether the knowledge and skills implied in the task will be mastered. There must be ample opportunity for the student to complete the activity and encounter sufficient repititions in the same task or similar tasks. Ineffectively paced and sequenced activities not only decrease the value of their instrumental reward properties but also may decrease student motivation to actively engage in the tasks. Pacing and sequencing probably depend on the complexity of tasks and their similarity to other school and non-school activities as well as on the aptitude of students. To the extent that schools or subsettings within schools differ in their temporal structuring of activities, they should educe different levels of student learning.

The form of an activity has both direct and indirect effects on student outcomes. Certain activities may induce higher levels of student involvement and hence stimulate greater achievement by increasing students' time-on-task. Moreover, activity forms themselves embody technical and moral contents: behavioral skills and orientations derive from an activity as it structures instrumental and social reinforcements of behavior. Linked in a temporal structure, activity forms determine the development of activity specific skills and norms and which of these receive continued reinforcement, thus

becoming more generalized knowledge and norms. More indirectly, the activity structure shapes interpersonal relations by determining the opportunities for interaction and the bases for social assessments. A teacher's pedagogical decisions, for example, may be importantly shaped by the way in which an activity form structures information and cues about students' performances and conduct. In addition, the exercise of control and authority and the distribution of individualized instructional assistance seem to be shaped by an activity structure. These features of the teacher-pupil relationship should have observable effects on what children learn. Social reinforcement of behavioral orientations also occurs through peer relations. An activity structure, particularly the extent to which students engage in common collective tasks, affects the nature of students social ties. Interpersonal influence and control obtain their effects through these ties.

Students experience schooling as a set of activities. To the extent that these activity experiences differ, so to should the technical and moral outcomes derived from schooling. An activity structures perspective penetrates into the everyday workings of the school. It focuses on the daily, recurrent experiences of students and teachers; how behavioral patterns are reinforced, how social relations develop and shape influence and control attempts, and how activity forms themselves communicate moral principles. Unfortunately, little is known about concrete variations in activity structures among schools and their parts or about how children

are sorted (or sort themselves) among various activity settings. How different are students activity experiences over several years; are there individual variations as children progress through school, or do schools or school districts vary in terms of the types of activity organizations they provide? What effect does length of participation in a particular activity structure have on learning? Are there crucial periods in a child's development that make exposure to a particular activity structure more influential than others? What are the relationships between activity structures encountered in the home and those employed in the school?

These questions imply that research on schooling processes and outcomes must examine how variations in the form, content, and timing of students' activity experiences affect their learning. There is a small body of research that has begun to do this. Single and comparative case studies, usually employing ethnographic and field research methods to examine classroom and school interactions, are beginning to generate a set of grounded propositions about schooling processes that capture the complexity of interrelationships between structural elements and social behavior (Richer, 1975; Doyle, 1977). The most useful of these employ comparative case designs, where the cases represent distinctive variations in one or several important dimensions.[26] Since most classrooms and schools seem to employ an extremely limited range of activity forms -- as Hoekter and Ahlbrand (1969) have noted, recitation is probably the most common instructional form -- choosing cases that are likely to illuminate contrasting patterns will produce the most useful and productive results.[27]

For example, if teacher attributions of children's performances vary by activity types (as suggested earlier), a research design might involve observing several teachers, some of whom use the same type of activities and some of whom use different activities. Systematic and detailed comparisons among cases are extremely important.

Ethnographic techniques and small, comparative case studies, however, are not immune to some of the problems that have plagued most standard research on schooling effects.[28] The use of extremely global characterizations of social phenomena and of categorizations or indicators that are highly removed from the interaction settings of everyday school life will continue to produce imprecise pictures of schooling processes. For example, relying on teachers' instructional orientations, as expressed in their pedagogical attitudes or self reports of classroom behavior (such as time logs), and on aggregate scores of student achievement to investigate classroom structural effects cannot capture the relationships between the teacher's action, students' behavior, and concrete classroom events. Attitudes are poor predictors of behavior, and self reports tend to mirror official categories for lessons, not actual practice. Moreover, to describe schools and classrooms as "open" or "traditional" or teachers as "formal" or "informal" tells almost nothing about the specific activities in which children and teachers interact or about the variations in experiences that can occur within a single classroom and school. Studies must be sensitive to these variations and develop descriptive and analytic categories that ade-

quately link activity structures, the experience of them, and concrete behavior.

In part, many of the problems with current schooling research stem from the improper choice of analytic units. At one extreme, researchers often aggregate data in order to characterize the entire school. This ignores the fact that few students experience the daily life of schooling as modal properties of the entire collectivity. In elementary schools, children's experiences are defined primarily by the classroom group, and characteristics of other teachers and students may never influence the child.[28] Even in high school and college, where schooling activities extend beyond a single classroom, experiences in a curriculum track or college department may produce the greatest effects, particularly in larger, heterogeneous schools. At another extreme, the nature of dyadic interactions between teacher and pupils has been a favorite unit for educational researchers. However, this captures only a fragmented part of social exchange and leaves unanalyzed the collective properties of instruction. An activity structures perspective, as mentioned before, provides a theoretically meaningful criterion for aggregating data. It focuses on groups of students and teachers who experience common, recurrent activities. Research on schooling processes must not assume ad hoc that administrative units, such as the school, homeroom, or grade level, are the most appropriate units for studying the influence of structural properties on students and teachers. In fact, more research is needed to describe the internal workings of the school and the ways in which teachers and students are sorted and selected into various interaction groups.

A third problem of schooling research has been the extremely short sampling frame used in most studies. Observations are usually gathered over a two hour to two week period. If an activity structures perspective is taken seriously, there are two readily apparent sampling considerations that must be considered. First, to discover the nature of recurrent activities there must be adequate time to observe the natural cycles of school life. Not only do activity structures vary in the periods in which common activities recur -- some are daily, some weekly, some monthly[29] -- they also may vary over the year in terms of the proportion of time spent in activities of different form and content. These cycles and patterns may prove very important for understanding schooling. For example, almost nothing is known about the negotiation process between teacher and students (Waller, 1932); how activity choices and solutions to problems at the first of the year affect what can and will be done later.[30] The cresive nature of classroom and school structure can only be examined if an investigation adequately samples the complex routines of school life. Second, studying the impact of schooling activities on student outcomes cannot be limited to single observation or even one year time frames. Most outcomes have antecedents that derive from past experiences and these must be traced explicitly. For example, several studies of "open" classrooms assert that students exhibit more problems with procedural behavior (coordinating movement from one activity to another) than students in "traditional" classrooms and that this accounts for the lower achievement scores of children in many open classes. However, if estimates of the prevalence of open class-

rooms are correct (e.g., Bennett, 1976), most of the children observed in any study have never been in open classrooms before. It seems reasonable to expect at least one year for children to learn the new patterns of behavior required in the open classroom and subsequent years for the effects of open structure on learning to become apparent. Longitudinal data, then, is essential for examining how important consistencies and differences in children's activity experiences affect their learning.

Large scale studies of schools and classrooms may be useful once a set of grounded concepts and propositions are derived. However, the nature of positivistic social research makes it unsuitable for generating such ideas. Although an activity structures perspective may provide useful clues for research, it is still only a perspective -- sensitizing one to important issues -- and it requires more development before clear relationships and variables are specified.

Whatever research designs are used to study schooling processes, however, they must capture the complexity of social interactions that occur in school settings. Schooling is a social activity -- its outcomes influenced by its form of social organization. An activity structures perspective, focusing on the form and organization of recurrent activities, discloses the variable conditions in which students and teachers interact and form social ties, experience social sanctions, and make judgments about themselves and others. The structure of activities shapes how students and teachers experience the curriculum, the allocation of resources and rewards, and the pedagogical decisions teachers make. These affect what is learned in schools.

NOTES

1. A detailed critique of this problem will not be repeated here. See Spady (1973) and Barr and Dreeben (1977).

2. See Cohen (1975).

3. See Mead (1934), Blumer (1969), Berger and Luckmann (1966), and Schultz (1970).

4. A similar example of this process can be found in Merton's (1949) treatment of bureaucratic personality.

5. See Doyle (1977) for a detailed critique.

6. In part, Bloom's (1956) taxonomy of behavioral objectives represents such an attempt for some schooling goals.

7. Behavioral learning theories apply here.

8. Bidwell (1972, p.1) usefully distinguishes between technical socialization - "developing intellective and motor skills and learning items of information and systems of thought that organize them - and moral socialization - acquiring values and goals for conduct and learning to be responsive to moral rules (norms).

9. See Walker and Schaffarzick (1974).

10. There are many definitions of curriculum structure; see Posner (1974) for a brief review.

11. Though, in fact, flying model airplanes on the playground may constitute an effective experience in math if students recognize and attempt to compute relationships between the time and distance of flight.

12. Karweit (1976) could not replicate the relationship between time in school and student achievement.

13. This assumes a given level of perserverence and quality of instructional materials.

14. This effect is not always clear because mastery techniques seem to imply a technical model of instruction which usually cannot be implemented adequately in the normal classroom situation. See Barr and Dreeben (1977) for a discussion of this.

15. Whether a students' cognitive awareness of the overlap among activities serves as a motivation for performance will be considered later.

16. A reasonable conceptualization of one of the links between "family background" and school achievement may be in the degree of overlap in their activity structures.

17. Even though a number of schemes for analyzing the activity forms in classroom lessons have been developed, none of these have been used to assess achievement outcomes. See Herbert (1967), Perkins (1974), Gump (1967), and Adams and Biddle (1970).

18. Recently, many critiques of "open" classrooms and schools indicate that these methods decrease the on-task behavior of students, mainly because of the time involved in movement from one learning area to another and in giving instructions about such movement. However, it is unclear whether this is an inherent property of these methods, due to poor coordination and planning among teachers who use these methods, or a function of its novelty to students who must learn new behavioral orientations.

19. Studies of classroom teaching show no significant relationships between behavior and traits, attitudes or expectations (Dunkin and Biddle, 1974; Doyle, 1977).

20. Dahllöf also argues that within school groupings by ability will naturally increase differences in pupil groups because teachers will pace instruction with reference to different criterion steering groups.

21. Dreeben also notes the importance of age grading for stimulating within group comparisons.

22. This is not to imply that associations in these groupings cannot affect students. Even fleeting interactions may instill normative orientations. However, the most consistent and enduring effects should occur in stable, recurrent interactions. Moreover, larger aggregate units may be appropriate analytical units of subsettings within them all provide the same ability experiences. However, this cannot be assumed; it must be explicitly examined.

23. Studies of school "climate" may qualify here. However, as Bidwell (1972, ff p.22) notes, these have not clearly defined "climate" or provided dynamic models of how their effects are obtained.

24. Some activities may be more intrinsically satisfying than others, and this may result from motivations and aspirations that are generated from out-of-school experiences and social relations,

25. Of course, teachers who are inept at handling the coordination of multiple activities may lose the respect of their students and, hence, generate less rapport than teachers who competently use recitation methods.

26. This does not imply that standard, hypothesis-testing designs must be followed. Cases may be chosen to represent "hunches" derived from the activity structures perspective, with the exact parameters of the differences generated during the study itself (following Becker's [1958] guide for sequential analysis of field data).

27. See Pondy and Olson (1977) for a useful discussion of selecting "extreme" cases in social research.

28. Many studies in the "new wave" of anthropological and sociological ethnographic research fail to follow standard techniques of sampling, concept develop and analytic rigor for field research.

29. This is not to say that aggregate characteristics have no effect, but rather that their influence is obtained through the action that occurs in a classroom practice can alternate or modify the effects of modal characteristics.

30. One example of a monthly cycle is a school run on strict behavioristic evaluations of students' performances (social and academic). Children accrued points for good behavior, etc. and "cashed them in" at the end of each month for tickets to films and other prizes at the "School Bash." The children and teachers responded to this by developing elaborate accounting schemes to calculate the relative "worth" of engaging in certain acts during the month.

31. Bossert (~~forthcoming~~ 1979) has examined how early activity choices affect the development of peer networks and pedagogical decisions that occur later in the school year.

REFERENCES

Adams, R.S. & Biddle, B.J. Realities of Teaching. New York: Holt, 1970.

Barr, Rebecca & Dreeben, Robert. Instruction in classrooms. In L. Schulman(Ed.), Review of Research in Education. Itasca, Illinois: F.E. Peacock Publishers, Inc., 1977.

Becker, H.S. Problems of proof and inference in participant observation. American Sociological Review, 1958, 23, 652-60.

Becker, Howard S., Greer, Blanche & Hughes, Everett. Boys in White. Chicago: University of Chicago Press, 1961.

Bennett, Neville. Teaching Styles and Pupil Progress. Cambridge, Mass.: Harvard University Press, 1976.

Berger, Peter & Luckmann, Thomas. The Social Construction of Reality. New York: Anchor, 1966.

Bidwell, Charles E. Students and Schools: Some observations on client-trust in client-serving organizations. In W. Rosengren and M. Lefton(Eds.), Organizations and Clients. Columbus, Ohio: Merrill, 1970.

_____. Schooling and socialization for moral commitment. Interchange, 1972, 3, 1-27.

Blau, Peter, The Dynamics of Bureaucracy. Chicago: University of Chicago Press, 1955.

Bloom, Benjamin S. (Ed.) Taxonomy of Educational Objectives. New York: McKay, 1956.

_____. Learning for mastery. Evaluation Comment, 1968, 1.

_____. Time and Learning. American Psychologist, 1974, 29, 682-88.

Blumer, Herbert. Symbolic Interactionism. Englewood Cliffs, New Jersey: Prentice Hall, 1969.

Borgatta, Edgar & Bales, R.F. Task and accumulation of experience in the interaction of small groups. Sociometry, 1953, 16, 239-52.

Bossert, Steven T. Tasks, group management, and teacher control behavior: A study of classroom organization and teacher style. School Review, 1977, 85, 552-65.

_____. Teacher's classroom decisions. Educational Comment. 1978.

_____. Tasks and Social Relationships in Classrooms: A Study of ~~Classroom~~ Instructional Organization and Its consequences. ASA Arnold and Caroline Rose Monograph Series. New York: Cambridge University Press, ~~forthcoming.~~ 1979

Breer, Paul & Locke, Edwin. Task Experience as a Source of Attitudes. Homewood, Illinois: Dorsey Press, 1965.

Carroll, John B. A model of school learning. Teachers College Record, 1963, 64, 723-33.

Cohen, Michael. Reference group theory, school climates, and the status attainment process: The impact of school contexts on educational aspirations and attainments. Unpublished paper, National Institute of Education, 1973.

Dahlöff, U. S. Ability Grouping, Content Validity, and Curriculum Process Analysis. New York: Teachers College Press, 1971.

Doyle, Walter. Paradigms for teacher effectiveness research. In L. Schulman (Ed.), Review of Research in Education, Itasca, Illinois: F. E. Peacock, 1977.

Dreeben, Robert. On What is Learned in School. Reading, Massachusetts: Addison-Wesley, 1968.

Dunkin, M. J. & Biddle, B.J. The Study of Teaching. New York: Holt, 1974.

Gump, Paul V. "The Classroom Behavior Setting." Washington, D. C.: Office of Education, 1967.

Herbert, J. A System for Analyzing Lessons. New York: Teachers College Press, 1967

Hoekter, A.J. & Ahlbrand, W.P. The persistence of the recitation. American Educational Research Journal, 1969, 6, 145-169.

Homans, George C. The Human Group. New York: Harcourt, Brace, 1950.

Hughes, Marie. "Assessment of the Quality of Teaching in Elementary Schools." Washington, D. C.: Office of Education, 1959.

Jackson, Philip W. Life in Classrooms: New York: Holt, 1968.

Jones, E. E. & Nisbett, R. E. The actor and the observer: Divergent perceptions on the causes of behavior. In E. Jones, et. al., Attribution. New York: General Learning Press, 1971.

Karweit, Nancy. A reanalysis of the effect of quantity of schooling on achievement. Sociology of Education, 1976, 49, 236-46.

Kowatrakul, Surang. Some behaviors of elementary school children related to classroom activities and subject areas. Journal of Educational Psychology, 1959, 50, 121-28.

Mead, George Herbert. Mind, Self and Society. Chicago: University of Chicago Press, 1934.

Merton, Robert K. Social Theory and Social Structure. Glencoe, Illinois: Free Press, 1949.

Miller, L.K. & Hamblin, R.K. Interdependence, differential rewarding, and productivity. American Sociological Review, 1963, 28, 768-78.

Perkins, H.V. A procedure for assessing the classroom behavior of students and teachers. American Educational Research Journal, 1964, 1, 249-60.

Pondy, L.R. & Olson, M.L. Theories of extreme cases. Paper presented at the Annual Meetings of the American Psychological Association, 1977.

Posner, G.J. The extensiveness of curriculum structure: A conceptual scheme. Review of Educational Research, 1974, 44, 401-407.

Richer, S. School Effects: The case for grounded theory. Sociology of Education, 1975, 48, 383-399.

Roy, Donald. Quota restriction and goldbricking in a machine shop. American Journal of Sociology, 1952, 47, 427-42.

Sayles, Leonard R. Behavior of Industrial Work Groups. New York: Wiley, 1958.

Schultz, Alfred. On Phenomenology and Social Relations. Chicago: University of Chicago Press, 1970.

Scott, C.C. & Anderson, L.W. The relationship among instructional environments, student characteristics and student involvement in learning. Paper presented at the Annual Meeting of the American Educational Research Association, 1976.

Spady, William G. The impact of school resources on students. In F.N. Kerlinger (Ed.), Review of Research in Education. Itasca, Illinois: F.E. Peacock Publishers, Inc., 1973.

_____. The authority system of the school and student unrest: A theoretical exploration. In C. W. Gordon (ed.), Uses of the Socology of Education. Chicago: University of Chicago Press, 1974.

Stephens, J.M. The Process of Schooling. New York: Holt, 1967.

Walker, Decker & Schaffarzick J. Comparing curricula. Review of Educational Research, 1974, 44, 83-111.

Waller, W. The Sociology of Teaching. New York: Wiley, 1932.

White, Richard N. "The Organizational Context of Professional Socialization: A Comparative Case Study of Two Business Schools." Unpublished Docotoral Dissertation, University of Chicago, 1978.

Wiley, David. Another hour; another day: Quantity of schooling, a potent path for policy. In W. H. Sewell, R. M. Hauser, and D. L. Featherman (Eds.), Schooling and Achievement in American Society. New York: Seminar Press, 1975.

Woodward, Joan. Management and Technology. London: Her Majesty's Stationery Office, 1958.

Wright, R. J. The affective and cognitive consequences of an open education elementary school. American Educational Research Journal, 1975, 4, 449-64.